C2175-1 9/28/82

CHRONICLE
of Higher Education

September 29, 1982 • $1.25
Volume XXV, Number 5

News Summary

Articles on inside pages

More people would prefer drastic reductions in defense spending than in federal aid to higher education, a national opinion survey has found. Story on Page 3.

The firing of Charles Mayo, president of West Chester State College, has fanned a hot political controversy on the campus and in the state legislature. Story on Page 4.

A study of the quality of doctoral programs in mathematics and the physical sciences used 16 measures to rate quality. Story on Page 8 and Fact-File on Pages 9-10.

Agricultural research in the U. S. is hindered by weak, inflexible leadership, says a study to be released by the White House. Story on Page 11.

President Reagan has issued new directives designed to channel more federal assistance to traditionally black colleges and universities. Story on Page 11.

The Defense Department is trying to speed [illegible] release of some scientific [illegible] that Pentagon officials barred from presentation at a conference last month. Story on Page 11.

Budget cuts and changed priorities have created new obstacles to the support of research on postsecondary education by the National Institute of Education. Story on Page 12.

Penalties imposed by the National Collegiate Athletic Association may damage the University of Southern California's academic reputation, officials fear. Story on Page 15.

Scholars are using several approaches to study television's impact on U. S. culture and politics. Story on Page 21.

Economic problems in Mexico may seriously affect government support for higher education. Story on Page 19.

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END OF LONG DECLINE?

SAT Verbal, Math Scores Up for First Time in 19 Years

NEW YORK

For the first time in 19 years, scores on both parts of the Scholastic Aptitude Test rose in 1981-82. Officials of the College Board, which sponsors the tests, expressed cautious optimism that the rise may presage the end of the long decline in scores.

The class of 1982 surpassed last year's seniors by 2 points on the verbal section of the test and by 1 point on the mathematics section, averaging 426 and 466 respectively on scale of 200 to 800.

Last year, when both scores remained unchanged from the previous year, was the first since 1963 in which neither score declined. That year, the verbal score stood at 478 and the mathematics score at 502.

George Hanford, president of the College Board, said it was too early to know whether this year's results indicated merely a slowing of the decline or the reversal of it.

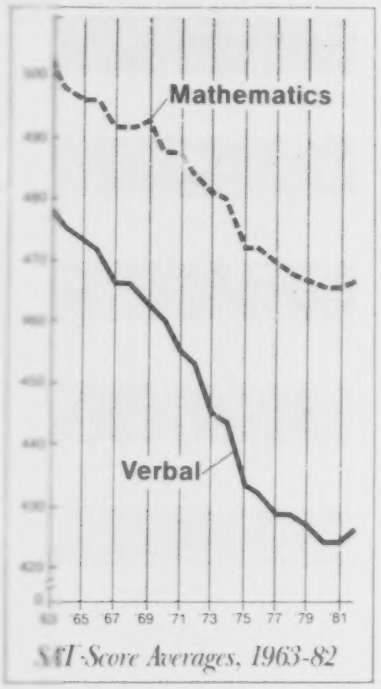
But, he said, "this year's rise, however slight, combined with last year's holding steady, is a welcome sign for educators, parents, and students that serious efforts by the nation's schools and their students to improve the quality of education are taking effect."

Scores on the Test of Standard Written English and on achievement tests in 15 disciplines also rose, the board said. The average achievement-test score rose 5 points to 537, its highest level since 1975.

Part of that increase, however, may be the result of an decline in the number of students taking the achievement tests. Most of those who continue to take those tests do so because they plan to submit the results to colleges and universities with more competitive admissions programs.

Once again, male students received bet-

Continued on Page 6, Column 1



SAT Score Averages, 1963-82

SOURCE: THE COLLEGE BOARD

At Some Community Colleges, the 'Open Door' Begins to Close

By BEVERLY T. WATKINS

The "open door" is beginning to close at some community colleges as they put more emphasis on academic standards and less on the universal access that has been their tradition since the 1960's.

Some two-year institutions are establishing admission standards for the first time. That is a departure from the prevailing policy of admitting any adult student who may benefit from the college's program, including remedial offerings. The institutions are also tightening academic-program requirements and suspending or dismissing students who continue to fail courses.

State agencies that oversee community colleges are requiring students to take tests in basic skills and imposing stricter criteria for associate-degree programs.

Among recent actions:

▶ Essex County College in New Jersey plans to establish admission standards for the first time in January. The new standards, which are still in the works, will require incoming students to demonstrate mathematics and reading skills at about the eighth-grade level.

The decision to establish standards followed a study of student records that

Continued on Page 8, Column 1

NCAA Gets Stay of Order Ending Its Sway over TV

Appeals court will hear case in November

By N. SCOTT VANCE

After a week of confusion, a federal appeals court has temporarily restored control of televised college football to the National Collegiate Athletic Association. The court will decide this week whether or not to extend its order until it hears the N.C.A.A.'s appeal in the case.

The court's reinstatement of the N.C.A.A.'s TV contracts canceled the first major deal in 30 years directly between universities and a television broadcaster, while relieving fears at some institutions that college football would slip into anarchy and that only a few institutions' football programs would survive.

The week before last, U.S. District Judge Juan C. Burciaga ruled that the N.C.A.A. illegally monopolized televised college football. He struck down $281-million in N.C.A.A. TV contracts and turned institutions loose to make their own arrangements with broadcasters. Judge Burciaga then refused to delay his order, saying that "for too long, [universities] have been denied the opportunity to realize the television income to which they are entitled."

Some college football games may be moved to Sundays if the National Football League players' strike goes on. Page 15.

Last week, however, the U.S. Court of Appeals for the Tenth Circuit in Denver issued a stay of Judge Burciaga's order. The judges said they would decide this week whether to extend the stay until the court hears the N.C.A.A.'s appeal, which is expected to begin about November 15.

The Universities of Georgia and Oklahoma brought the lawsuit challenging the N.C.A.A.'s control over televised football, claiming the right to negotiate their own contracts with broadcasters, something the N.C.A.A. has kept them from doing.

Officials at most institutions, even those wanting the N.C.A.A.'s TV controls abol-

Continued on Page 17, Column 1

'Survival' for Travelers; Retirement vs. Tenure

▶ Frequent travelers in academe have strategies that can make the often expensive and confusing business trips more affordable and comfortable.

▶ Federal legislation to "uncap" the mandatory retirement age presents a serious threat to tenure, a committee of the the American Association of University Professors has charged.

For details, see The Chronicle's new "Personal & Professional" section, which begins on Page 27

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West Chester *Continued from Preceding Page*

heard it blatantly, out in the open," she said. She also said that those seeking his ouster would not give "a concrete administrative reason in terms of his performance as president."

When it was published, the interview had the effect of bringing out into the open rumors that had circulated quietly on the campus for some time. After that, says Arlene C. Rengert, an associate professor of geography who is also president of the faculty senate, "it was just a regular guessing game as to when the other shoe would fall."

■

The audits that Secretary Wilburn referred to in his letter to Mr. Mayo are another source of disagreement.

The U.S. Department of Education conducted a review of the college's campus-based student-aid programs in 1981. When the final report was released last spring, it said the college owed the government $76,496.

Of that amount, says Louis F. Weislogel, the college's vice-president for administration and student affairs, $48,417 went to disadvantaged students who, according to the government, had failed to make satisfactory academic progress during the second year of a two-year scholarship program. The college, which applied different standards of progress, believes that the students were not necessarily overpaid, Mr. Weislogel says.

The rest of the $76,496, the Education Department said, was the result of disbursement errors and of the college's failure to keep track of aid recipients' academic status. Mr. Weislogel is quick to point out that no one at West Chester State was accused of using college or federal funds for personal gain. "All the moneys in question were expended for needy students," he said. "We were in error on a number of factors, but we have corrected those factors now."

At the beginning of this month, Pennsylvania's auditor general released an audit of the college that made headlines by charging—as an accompanying press release put it—"top financial officials of West Chester State College with mismanaging more than $561,000 in recent years, including subsidizing a Philadelphia Eagles training camp with state funds."

The auditor general, Al Benedict, an elected Democrat, made a special trip to West Chester State to discuss the report, which covered the fiscal year ending June 30, 1981, in a press conference. He criticized the college for charging the Eagles, a professional football team, too little for the use of parts of the campus for a 1980 training camp. He also criticized a warehouse lease as too expensive and complained that the college should have charged a number of nonacademic programs—such as soccer camps and conferences—more for the use of college facilities.

Mr. Weislogel replied with a press release noting that Mr. Benedict had, at the same time, given the college an "unqualified" audit—which, among accountants, "constitutes the highest rating possible in an audit," Mr. Weislogel said. He attributed most of Mr. Benedict's charges to "a difference of opinion" on the handling of "special funds"—such as those received from conferences and camps—that are not covered by state fiscal guidelines.

Although the audit says the college subsidized the Eagles camp to the tune of $93,574, Mr. Weislogel says that much of what the audit says was spent on the Eagles—for new beds and maintenance of the football fields, for instance—would have been spent anyway. He says the net loss to the college over the three-year life of the Eagles contract, which ended this summer, will be about $12,000.

That is not an unreasonable amount to pay, he adds, for all the publicity that the camp earned West Chester State.

Mr. Weislogel did not become the college's chief financial officer until July, 1980. He has been working hard to correct a number of deficiencies he says he found then in the college's financial-management systems. "We've straightened out the mess," he says.

While he agrees that Mr. Mayo, as president, had final responsibility for the college's budget, he thinks it somewhat unfair that Mr. Mayo's critics are laying all the blame for the problems on him.

The trustees, Mr. Weislogel notes, were kept informed of the college's fiscal situation at all times and knew the details of the Eagles contract. Furthermore, he says, that contract and many of the other problems discussed in the audit—especially in the special-funds office, which had only one employee when Mr. Weislogel arrived—were the responsibility of Mr. Weislogel's predecessor, Dennis D. Bell.

The Thornburgh administration appointed Mr. Bell president of East Stroudsburg State College in 1980.

■

Administrators and faculty members at West Chester State, including some who supported him, offer mixed reviews of Mr. Mayo's performance as president.

"Probably a lot of people I respect on campus thought it was time Mayo should go, but with dignity," says one administrator. "In the end, the wrong people got rid of him for the wrong reasons."

Another supporter, who also asked not to be identified, calls Mr. Mayo "pathetic" as an administrator and says he neither cared much for the details of administration nor kept abreast of policy questions.

Mr. Mayo's most vocal supporters have been faculty members and students, with whom he developed good relations over the years.

When the Commonwealth Association of Students organized protests against a systemwide tuition hike last winter, Mr. Mayo joined one of the picket lines. "I believe in shared governance, and I've tried to operationalize that belief over the years," says Mr. Mayo. "And I tried to establish a climate where people felt they could speak out."

Mr. Mayo was especially popular among faculty members for resisting pressure from the trustees to develop a retrenchment plan for the college. Such a plan would have been welcomed in Harrisburg.

Both before the firing and after it, Mr. Mayo has been supported by the faculty senate, the student government and the campus chapters of the A.A.U.P., the Association of Pennsylvania State Colleges and University Faculties, the American Federation of State, County, and Municipal Employees, and the Commonwealth Association of Students.

Mr. Mayo was a good deal less popular among the trustees. He had disagreements with trustees over policy questions for years, he admits. Several years ago, a board dominated by Democrats threatened to sue Mr. Mayo because he would not let them interview deans privately.

The current board, however, has never conducted a formal evaluation of Mr. Mayo. Nor have the board and Mr. Mayo had very cordial relations: One trustee, asking not to be identified, says that on one occasion two trustees' cars were ticketed for illegal parking on the campus during a board meeting—allegedly at Mr. Mayo's request.

On another occasion, the trustee says, the athletic director was told by the president's office not to issue a V.I.P. parking pass to a board member attending a football game.

The trustee says Mr. Mayo has "a grating personality" and "all the public-relations sense of Attila the Hun."

Budget Secretary Wilburn, who handled the dismissal for the governor although it was clearly in the province of Secretary of Education Robert G. Scanlon, says of Mr. Mayo: "He has postured himself since the day he took office against the board of trustees, fighting for the faculty and students. He is a confrontational person. I think he thought he was protecting himself, figuring, 'If I do get fired, I can make myself into some kind of folk hero.' "

Mr. Wilburn says Mr. Mayo had been told in June, 1981, of the administration's dissatisfaction with his management of the college's finances. In April, Mr. Wilburn offered Mr. Mayo six months of sabbatical leave and six months of another assignment, plus enrollment in an academic-leadership program at Harvard University and an 8-per-cent pay raise for his final year, if he would resign quietly. Mr. Mayo and his lawyer, however, held out for a 16-per-cent raise, the right to continue using the title "president," and a signed contract rather than a letter of intent. The negotiations eventually flagged.

"I presume he thought we wouldn't fire him in an election year," says Mr. Wilburn, referring to the governor's campaign for re-election—which he seems likely to win.

Of the offer of a settlement for Mr. Mayo, Mrs. Taylor says: "If they had given him any reward for his incompetent running of the college, I'd have screamed bloody murder."

■

After Mr. Mayo's firing, campus groups—angry that they had not been consulted before he was dismissed—moved quickly to assure that they would have some say in both the appointment of an interim president and the search for a permanent one.

They seem to have succeeded, if only because the man they endorsed, Kenneth L. Perrin, who became acting provost after Mr. Branton resigned, was also the choice of the trustees. Mr. Perrin, who was quickly approved for the interim presidency by the governor, says he was interviewed by four trustees—all of whom voted against Mr. Mayo on August 4.

"This really is a fine college," Mr. Perrin says. "There are so many good people here—students and faculty members. We just don't get enough good press."

SAT Scores Rise *Continued from Page 1*

ter scores than females on both the verbal and mathematics sections of the S.A.T. Some 52 per cent of the test-takers were women.

On the verbal section, the average for men was 431 while the average for women was 421. On the mathematics section, males averaged 493 and females 443—a gap that has widened by 6 points in the past 10 years.

Along with the scores, the board released the findings of a questionnaire completed by about 90 per cent of those who took the S.A.T. Among them:

▶ "For the fourth consecutive year, business and commerce was the most popular area of intended college study, with the increase coming predominantly from women." Women, who accounted for slightly more than a third of all students intending to study business in 1973, now account for 56 per cent.

▶ "All students, but especially women, are moving towards high-paying and technological fields of study and away from low-paying fields and the liberal arts."

▶ Interest in studying computer science has increased by 38 per cent in the past year alone—and by 381 per cent since 1975.

▶ Although interest in engineering careers rose for the eighth straight year, only 4 per cent of the women questioned—compared with 23 per cent of the men—listed it as their preferred area of study.

▶ The number of high-school students planning to apply for financial aid increased slightly, to 76 per cent. "Only one in five families is estimated to be able to pay the full annual cost of education at public four-year institutions," according to the board, "and only 11 per cent at private four-year colleges."

About a million students took the S.A.T. in 1981-82—roughly a third of all 1981-82 high-school seniors and nearly two-thirds of all those entering college this fall, the College Board says. The test results are used by many college and university admissions offices, particularly in the East.

The board estimates that if all high-school seniors had taken the test, instead of just those planning to go on to college, the average verbal score would have been 368 and the average math score 402.

Copies of the board's report, *National College-Bound Seniors, 1982*, are available free of charge from The College Board, Box AF, 888 Seventh Avenue, New York 10106.

For the first time, the College Board this year also released a state-by-state breakdown of the S.A.T. scores. Since such information was often either released or leaked to reporters by state education officials in the past, the board decided to issue a list itself "to insure that the information is accurate and to place it into proper context."

Because the proportion of students taking the S.A.T. varies widely among states—from a low of 2 per cent in South Dakota to a high of 69 per cent in Connecticut—scores cannot be used to draw conclusions about the effectiveness of the states' high schools, the board said. --L.B.

Average SAT Scores, by State

	Percentage of high-school graduates taking S.A.T.	Average S.A.T. scores	
		Verbal	Math
Alabama	6%	463	501
Alaska	31%	446	477
Arizona	11%	470	511
Arkansas	4%	480	519
California	36%	425	474
Colorado	16%	468	515
Connecticut	69%	432	464
Delaware	42%	432	465
Florida	39%	426	463
Georgia	51%	394	429
Hawaii	47%	392	465
Idaho	7%	482	513
Illinois	14%	462	515
Indiana	48%	407	453
Iowa	3%	516	572
Kansas	5%	500	545
Kentucky	6%	475	510
Louisiana	5%	470	505
Maine	46%	427	463
Maryland	50%	425	464
Massachusetts	65%	425	463
Michigan	10%	459	514
Minnesota	7%	485	543
Mississippi	3%	479	509
Missouri	10%	465	510
Montana	8%	487	546
Nebraska	5%	493	552
Nevada	18%	436	481
New Hampshire	56%	443	482
New Jersey	64%	416	453
New Mexico	8%	480	517
New York	59%	429	467
North Carolina	47%	396	431
North Dakota	3%	505	563
Ohio	16%	456	502
Oklahoma	5%	483	518
Oregon	40%	435	473
Pennsylvania	50%	424	461
Rhode Island	59%	420	457
South Carolina	48%	378	412
South Dakota	2%	522	553
Tennessee	9%	480	519
Texas	32%	415	453
Utah	4%	494	528
Vermont	54%	433	471
Virginia	52%	426	462
Washington	19%	468	514
West Virginia	7%	462	506
Wisconsin	10%	476	535
Wyoming	5%	484	533

SOURCE: THE COLLEGE BOARD

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Public Would Cut Defense Before Education, Poll Finds

WASHINGTON

People would rather see drastic cuts in federal funds for defense than in support for higher education, a national public-opinion survey has found.

Only 15 per cent of the people surveyed said aid to higher education should be cut drastically, compared to 22 per cent who favored drastic cuts in defense spending.

More than three-fourths of the people surveyed favored continued federal support for low-interest loans to middle-income students, and 70 per cent favored continued federal grants to low-income students, according to a preliminary report of the survey findings.

A substantial majority favored continued federal support of university research in medicine and the natural sciences.

There was less support for aid to the arts, humanities, and social sciences.

Continuation of programs in the arts was opposed by nearly half the people surveyed. Continuing support for research in the humanities and social sciences was opposed by about a third of them.

The survey found that 40.8 per cent of the general adult population tended to agree with those who advocate major reductions in financial aid to students as way of cutting government spending and fighting inflation.

A subtantially larger proportion, 48.5 per cent, tended to agree with critics who fear that the reductions will force some students to drop out of college or shift to a lower-cost institution.

The survey was conducted during the past summer by Group Attitudes Corporation, a research organization in New York City, and was sponsored by 11 national education groups. The survey data were gathered from 1,188 people aged 18 or over in a sample designed to be representative of the adult population. Full results of the survey are scheduled for publication next month.

"The data clearly show that Americans are very concerned about the financing of higher education in their country, and that they would like the federal government to continue its present level of support to needy college and university students," said Walter Lindenmann, president of Group Attitudes Corporation.

The organizations that sponsored the survey are: the American Association of Collegiate Registrars and Admissions Officers, the American Association of State Colleges and Universities, the American Association of University Professors, the American Council on Education, the Association of American Colleges, the Association of Governing Boards of Universities and Colleges, the Council for Advancement and Support of Education, the Council for Financial Aid to Education, the Council of Independent Colleges, the National Association of College and University Business Officers, and the National Association of Independent Colleges and Universities.

—J.M

Public attitudes toward cutting federally-financed programs

	Should not be cut at all	Should be cut somewhat	Should be cut drastically
Medical care for the aged	68.0%	19.2%	9.5%
Medical and cancer research	62.0%	27.6%	7.4%
Energy, research and development	43.1%	40.4%	13.4%
Aid to higher education	**42.2%**	**38.3%**	**15.0%**
School lunch program	33.5%	44.0%	18.4%
National-defense spending	32.5%	42.0%	22.3%
Aid to agriculture	28.6%	52.4%	13.9%
Social-welfare programs	22.5%	43.0%	31.6%
Space program	19.9%	46.3%	30.7%

Public attitudes toward continuing federal education programs

	Favor	Oppose	Undecided
Loans to middle-income students	77.4%	10.3%	8.6%
Grants to low-income students	70.6%	18.5%	7.2%
Support for institutions with large percentage of low-income students	66.4%	16.2%	13.7%
Medical research	81.0%	6.1%	9.5%
Research in the physical sciences	64.0%	12.7%	19.2%
Research in the humanities	41.8%	31.2%	23.1%
Research in the social sciences	39.9%	31.9%	25.2%
Programs in the arts	25.9%	46.8%	22.3%

Note: Data are from a stratified sample of 1,188 people aged 18 and over, representative of the U.S. adult population

SOURCE: SURVEY BY GROUP ATTITUDES CORP.

1,000 Institutions to Mark Higher Education Week

WASHINGTON

Special activities recognizing the contributions of higher education to American society are scheduled at more than 1,000 colleges and universities across the country next week.

A convocation at the Jefferson Memorial here will highlight the events of National Higher Education Week, being sponsored by the Council for Advancement and Support of Education as part of its "America's Energy Is Mindpower" campaign. The governors of all 50 states and the mayors of 15 cities have issued proclamations in honor of the week.

The focus of the campaign this year is on cooperation between the campuses and the business community, and participating institutions are planning events around that theme. Some examples:

▶ In San Francisco, a consortium of eight colleges—both public and private—has scheduled speaking programs, campus tours, and receptions designed to inform the public about the role of higher education. The group has produced and distributed a study showing that the eight institutions are among San Francisco's largest employers.

▶ In Washington, Georgetown University will sponsor a Mindpower Symposium, for corporate officers and college and university presidents, on strengthening relations between higher education and business and industry.

▶ In Indiana, Ball State University will sponsor a "College and Industry Dialogue" in cooperation with the National Association of Manufacturers.

The convocation at the Jefferson Memorial on October 9 will honor the winners of CASE's Thomas Jefferson Medal and Professor of the Year award. The Rev. Theodore M. Hesburgh, president of the University of Notre Dame, will receive the Jefferson Medal "for his contributions to society beyond the field of higher education."

Among the 600 invited delegates participating in the convocation will be representatives of the 90 institutions that have awarded honorary degrees to Father Hesburgh.

Anthony F. Aveni, a professor of anthropology and astronomy at Colgate University, will be honored as the 1982 Professor of the Year.

Other events of National Higher Education Week include a Mindpower Day at the World's Fair in Knoxville, Tenn., and a lecture at the Smithsonian Institution by Mr. Aveni.

The Mindpower campaign, which was begun in July, 1981, has been featured in $10-million worth of public-service advertising seen by an estimated 100 million Americans.

The campaign has the endorsement of 30 national education associations and 87 state education agencies.

—PAUL DESRUISSEAUX

est annual *Current Population Survey* show that the number of people out of work among those aged 25 to 64 with four or more years of college education rose from 386,000 in 1981 to 570,000 in 1982. Even so, the jobless rate of that group—3 per cent—was lower than that of any category of workers with less education, the bureau reports.

Jobless Offered Free Semester at Sacred Heart College

A free semester of study is being offered by Sacred Heart College in North Carolina to unemployed high-school graduates over age 21.

Students accepting the free-study offer will be limited to two eight-week sessions of night classes. In the first session, all students will be required to take a class in career and life planning and an introductory business course.

Free child-care service will be provided, college officials said.

Judge Orders Release of Student Funds

A state judge has ordered California State University at Los Angeles to release $500,000 in student-activity funds that were frozen by the university when student leaders refused to hold a recall election.

Judge Leon Thompson also appointed a referee to determine the validity of petitions that, the university contended, required the student leaders to hold an election on their recall.

Harvard Alumni Offered Chance to Join 'Ivy League'

The financially strapped Arnold Arboretum, Harvard University's botanical guardens and horticultural-research center in Boston, is offering Harvard alumni the opportunity to buy membership into an elite club called the "Ivy League."

For a gift of $100, alumni will receive a rooted cutting of ivy stripped from one of two university residence halls as part of a $35-million renovation project.

Last spring, Harvard officials decided to remove the ivy, which, officials said, appeared to be damaging the concrete and mortar. The decision brought highly publicized protests from students and some alumni.

Notes

Richard D. Fulton, assistant dean of the graduate school at Washington State University, has been named the first "dean in residence" under a new program of the Council of Graduate Schools in the United States. Mr. Fulton will spend a sabbatical year at the council's Washington office. . . . The University of Wisconsin Board of Regents has instructed Robert O'Neil, the university's president, and Hubert Grover, the state school superintendent, to appoint a committee to draft a list of subjects that high-school students should take in preparing for admission to the university system. . . . The student director of "KU on Wheels," a student-run bus system at the University of Kansas, has been arrested and charged with theft following the discovery that an undetermined amount of money was missing from the system's bus fund.

Correction

Because of a technical error several lines were dropped from the first paragraph of an article in the In Brief section of *The Chronicle*, September 22, concerning charges that the University of California had prevented the broadcast of a radio script. The paragraph should have read:

Grievances have been filed against the University of California by two staff members of a university radio program on grounds that a script on discrimination against women in higher education was kept off the air.

Notes on . . . Student Aid

A Department of Education study of mistakes made in the Pell Grant program has done more to "promote scandal" and garner headlines than to improve the program, a university researcher has charged.

Douglas M. Windham, professor of educational administration at the State University of New York, contends that problems in the Fell Grant program were overstated by the report, prepared under an Education Department contract by Advanced Technology, Inc.

Released last April, the report said $650-million in erroneous grant payments had been made in 1980-81—including $526-million in overpayments and $124-million in underpayments.

Mr. Windham took issue with the report for counting some payments as erroneous simply if certain papers were missing from students' files.

In addition, Mr. Windham contended, just the use of the word "error" in the report carries implications of fraudulent behavior that are not substantiated, suggesting that the report's authors intended to "create or promote controversy."

In a letter responding to Mr. Windham, Alexander Ratnofsky, director of the study, denied charges that the report was inflammatory or misleading.

If anything, Mr. Ratnofsky said, the report probably underestimated the amount of money awarded in error because his research team deliberately made conservative assumptions "to avoid giving indications of problems when they did not exist."

▪

The Justice Department recently uncovered some clearer cases of student-aid fraud, in an investigation of nonresident aliens who illegally received federal benefits.

A grand jury in New Haven, Conn. this month indicted 23 people on charges that they had falsely claimed to be U.S. citizens to obtain federal student loans and grants.

▪

High default rates on National Direct Student Loans—the smaller of the two federal student-loan programs—have given all student loans a bad name, says Thomas R. Wolanin, a former staff director of the House Subcommittee on Postsecondary Education. His solution to the problem: Get rid of direct loans.

The default rate on direct loans is 16 per cent, compared with 8 per cent on Guaranteed Student Loans.

The latter are made and collected by commercial banks, which receive a federal interest subsidy. Direct loans are awarded and collected by college officials, using money appropriated by Congress and funds collected from past borrowers.

Mr. Wolanin, who is now special assistant to the president of Antioch University, said at a recent seminar on student loans that he wanted to "get colleges out of the lending business." He suggested that money collected on old loans be used in the Supplemental Educational Opportunity Grant program. He also recommended dropping the interest on guaranteed loans from 9 to 7 per cent.

—JANET HOOK

First Major Study Since 1969 Rates Quality of Graduate Programs

By MALCOLM G. SCULLY
WASHINGTON

Doctoral programs in mathematics and the physical sciences at highly regarded public and private universities have received high marks in a comprehensive study of the quality of graduate education in the United States.

The study also identified a number of less well-recognized institutions where the quality of such graduate programs was perceived to have improved significantly in the last five years.

The results of the assessment of quality in six disciplines—chemistry, computer science, geoscience, mathematics, physics, and statistics and biostatistics—were published here last week by the National Academy Press.

Four additional volumes, which will include the studies of doctoral programs in 26 other disciplines in the humanities, social sciences, biological sciences, and engineering, are to be released by the end of October.

The assessment is the first major investigation of the quality of graduate programs since a study by the American Council on Education in 1969.

It was conducted by a committee named by the Conference Board of Associated Research Councils, which comprises the American Council of Learned Societies, the American Council on Education, the National Research Council, and the Social Science Research Council.

The committee took pains to avoid leaving its study open to the conventional criticism that assessments of the reputations of graduate programs constitute little more than gossip, and it stressed that no one numerical measure "can rank the quality of different programs with precision."

It listed 16 separate measures "related to quality," and refrained from combining them into a single composite ranking.

Those measures included the size of the graduate faculty, the number of graduate students, the level of graduates' success in finding jobs, the percentage of faculty members receiving research support from federal agencies, the extent of library holdings, and the number of publications by professors in the program.

The committee also conducted a "reputational survey," completed by 1,155 faculty members in the six fields in mathematics and the physical sciences. The faculty members were asked to rate:

- The scholarly competence and achievements of the faculty members in 50 departments.
- The effectiveness of the programs in educating research scholars and scientists.
- The improvement of the programs over the past five years.

They were also asked to indicate how familiar they were with faculty members in the programs being rated.

The results were presented in both raw scores and in standardized scores showing how far above or below the mean of 50 each program was ranked.

There were few surprises in the ratings of the quality of the graduate faculties. For the six fields, the institutions with standardized scores of 70 or above were:

Chemistry: University of California at Berkeley, California Institute of Technology, Columbia University, Harvard University, Massachusetts Institute of Technology, and Stanford University.

Computer sciences: Berkeley, Carnegie-Mellon University, M.I.T., and Stanford.

Geoscience: Caltech and M.I.T.

Mathematics: Berkeley, University of Chicago, Harvard, M.I.T., and Princeton University.

Physics: Berkeley, Caltech, Chicago, Cornell, Harvard, M.I.T., Princeton, and Stanford.

Statistics/biostatistics: Berkeley, Chicago, and Stanford.

However, the ratings of programs that had improved in quality over the past five years did identify institutions that have not traditionally received the best marks in reputational surveys. The programs with scores of 70 or above on that measure were:

Chemistry: Colorado State University, Florida State University, University of Nebraska at Lincoln, University of South Carolina, University of Southern California, and University of Utah.

Computer science: Georgia Institute of Technology and University of Rochester.

Geoscience: University of Arizona, Cornell University, University of South Carolina, and Washington University in St. Louis.

Mathematics: University of Delaware, University of Illinois at Chicago Circle, University of Kentucky, University of Texas at Austin, and University of Utah.

Physics: University of California at Santa Barbara, University of Houston, University of New Mexico, North Carolina State University, University of Texas at Austin, and Virginia Polytechnic Institute.

Statistics/biostatistics: Carnegie-Mellon University, University of Pittsburgh, and University of Washington.

The committee's report on its assessments does not provide lists, in descending or ascending order, of the results of the reputational survey, and Lyle V. Jones, co-chairman of the committee, said it had hoped to avoid the establishment of a simple pecking order.

However, in a telephone interview, Mr. Jones, who is director of the psychometric laboratory at the University of North Carolina at Chapel Hill, said the committee members recognized that such lists would be drawn up.

"By providing a number of measures, many of which are related to quality," he said "we're hoping pragmatically that no one measure will be taken as the answer."

He added that the committee had decided against developing a single, composite measure of the quality of graduate programs.

"We are leaving to the reader the awesome task of synthesizing the different measures. We present the data and leave it to the users to interpret them," Mr. Jones said. "We're in enough trouble just publishing the results."

He added that unlike the "raters" who participated in earlier surveys, those in the committee's study were provided with "the names of the faculty members involved with each program to be rated and the number of research doctorates awarded in the last five years."

The report of the committee's findings recognizes that the survey will be subjected to many of the criticisms leveled at earlier studies—that the raters are less familiar with smaller programs, that they probably include a disproportionate number of alumni of larger programs, and that they reveal geographical biases.

The report adds, "Some critics may argue that such ratings are positively misleading because of a variety of methodological artifacts or because they are supplied by 'judges' who often know very little about the programs they are rating.

"The committee has conducted the survey in a way that permits empirical examination of a number of the alleged artifacts and, although our analysis is by no means exhaustive, the general conclusion is that their effects are slight."

The report also defends the reputational survey on the same grounds that some of the earlier surveys have been defended. It notes that graduate students, faculty advisers, and granting agencies make decisions based on impressions of a program's quality.

"The impressions are real and have very real effects, not only on students shopping for graduate schools, but also on other flows, such as job-seeking young faculty and the distribution of research resources," the report says.

While the impressions "may be far from ideally informed," it adds, they "show a strong degree of consensus within each discipline, and it seems safe to assume that they are more than passingly related to what a majority of keen observers might agree program quality is all about."

Copies of the committee's report on its findings, *An Assessment of Research-Doctorate Programs in the United States: Mathematical & Physical Sciences*, are available for $10.50 each from the National Academy Press, 2101 Constitution Avenue, N.W., Washington 20036.

'Open Doors' Begin to Close at Some Community Colleges Continued from Page 1

showed about 85 per cent of new students had serious academic deficiencies. Since 1980, the college has dismissed more than 450 students for continuing academic failure and put another 400 on probation.

- The Passaic County Community College has restricted enrollment in its remedial courses to students who can read at the eighth-grade level or above, and has told other applicants to attend local adult-learning centers until they are ready for college.

Although the restriction is not a formal admission standard, it amounts to one, because New Jersey requires all higher-education institutions to place students who do not achieve minimum proficiency on a basic-skills test in remedial courses until they can do college entry-level work.

- In response to the actions at Essex and Passaic, the New Jersey Council of County Colleges, whose members are the presidents of two-year institutions, has just formed a committee to study open access and the underprepared student. The committee will make recommendations to the state board of higher education for revising the state policy that guarantees all high-school graduates admission to a two-year college.
- The California Community College system has tightened requirements for the associate degree. Under the new requirements, which will take effect next July 1, students seeking a degree will have to complete 18 units of general education, instead of the present 15, and take courses in writing and analytical thinking. Each of the 107 community colleges must establish standards of proficiency in reading, writing, and mathematics, and students must meet those standards before they can graduate. The grading policy was also revised to restore F for failure and limit W for withdrawal.
- The Florida Department of Education is developing a basic-skills test for students seeking an associate degree or admission to the upper division of a four-year institution. Effective August 1, 1984, such students will have to take a test in communications, computation, and reasoning and pass it with a minimum score, which has not yet been determined. The state legislature requested the test, which was developed jointly by faculty members at two-year and four-year colleges.
- Miami-Dade Community College has established a program called Standards of Academic Progress that, among other things, enables the college to monitor a student's program through a "computer hold" on academic records. Students must overcome deficiencies in basic skills, complete courses in the proper sequence, and maintain a minimum grade level or they cannot continue in college. During the last three years, the college put on probation or suspended more than 11,000 students whose grade-point averages fell below 1.5 (on a scale of 0 to 4).

The emphasis on academic standards at the expense of open admissions is generating mixed reactions among community-college educators. Even those who support changes, saying they have no choice but to tighten their standards because of decreasing financial support, are concerned about the outcome.

Robert H. McCabe, president of Miami-Dade, one of the first two-year institutions to emphasize academic standards, says, "The driving concept of the community college has been expanding access. The opening of opportunity to new populations has been surprisingly successful. However, the access revolution has also been a major contributor to the decline of standards."

He says the two-year college "must maintain its essential commitment to the open door" because it is the primary institution that provides educational opportunity for disadvantaged students.

But at Miami-Dade, he points out, "two-thirds of all entering students tested are deficient in reading, writing, or mathematics. More than 90 per cent of the blacks tested are deficient in one skill, and more than two-thirds are deficient in each of the basic-skills areas."

He adds, "For large numbers of Americans, it is too late to begin improvement of academic deficiencies at the community-college level." The colleges "must be prepared to suspend students if there is no evidence of reasonable progress."

Says Rosalie Hojegian, assistant dean of academic affairs at Passaic: "I don't know what the ramifications of what we are doing will be. It is a very difficult thing. It is not a popular position to be in."

Declining financial support, she says, has made tighter academic standards necessary at Passaic. "Our governing board is appalled at the number of bucks that have to be applied to remedial education. It is a drain on institutional resources.

"We have always been an institution with open arms that takes everyone in. Now that dollars are hard to get, we have to think about bringing in those students who have half a chance of getting through.

"Community-college students come in three types. One group will succeed in spite of us. One group will not make it no matter what we do. But there is a middle group. With proper support and tutorials and gentle guidance, these students will make it. We are trying to get to this middle group."

Connie Woodruff, director of community and public relations at Essex, says the college expects "to get better-caliber students" with higher admission standards. "If they know they will be in a classroom with their peers, better students will be more likely to come," she says. "We want to eliminate the image of the community college as a remedial school."

Ms. Woodruff says she hopes that excluding some students from the college "will force the public to take a second look at what is happening to students at the secondary level. We get graduates from high school who can't read and write. The public is paying twice for education."

Ernest H. Berg, an academic-program specialist at the California Community College system, says that more stringent standards may result in a decrease in the number of students who earn associate degrees, but students can transfer to four-year institutions without that degree.

"Certainly, it will be more difficult for vocational-education majors who do not normally take courses in rhetoric or expository writing to complete degree programs," he says. "Many students in high-tech or allied-health programs here already have to take more than the 60 units needed for graduation to satisfy the requirements in their areas and for the associate degree."

In the view of B. A. Barringer, president of Brookdale Community College in New Jersey, deciding not to admit students solely because they lack academic skills is "a dangerous and ill-advised reaction" to the problem of limited resources.

A recent follow-up survey of 100 Brookdale students who scored in the lowest 5 per cent on New Jersey's basic-skills test between 1978 and 1981, he says, showed that two of them had graduated. As a group, he says, they had completed 46 per cent of the regular college-level courses they had attempted.

"Obviously," he says, "there were those who did not succeed, but there are also many students who enter college with adequate skills who do not succeed. Poorly prepared students may never attain a degree, but they deserve a chance to learn."

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FACT-FILE

Evaluations of 596 Programs in Mathematics, Physical Sciences

WASHINGTON

Following are evaluations of 596 doctoral programs in chemistry, computer sciences, geosciences, mathematics, physics, and statistics, based on a survey conducted in April, 1981, by a committee of the Conference Board of Associated Research Councils. The board includes representatives of the American Council of Learned Societies, American Council on Education, Social Science Research Council, and National Research Council.

Chemistry

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
U. of Akron				
Chemistry	40	40	55	39
Polymer Science	48	50	55	35
U. of Alabama	42	41	45	44
American U. *	34	32	43	36
U. of Arizona	54	56	62	53
Arizona St. U.	50	53	52	47
U. of Arkansas	46	45	51	43
Atlanta U. *	29	26	n.a.	34
Auburn U.	39	38	45	38
Baylor U.	38	37	40	38
Boston C.	40	39	51	42
Boston U.	45	45	46	46
Brandeis U.	56	57	44	54
Brigham Young U.	45	45	51	42
Brown U.	54	54	41	50
Bryn Mawr C.	36	35	39	41
U. of California				
Berkeley	74	72	63	74
Davis	55	56	59	54
Irvine	56	56	60	56
Los Angeles	69	67	61	68
Riverside	51	49	42	52
San Diego	62	59	56	59
Santa Barbara	57	56	66	59
Santa Cruz	48	49	30	47
California Inst. of Tech.	74	73	56	73
Carnegie-Mellon U.	54	53	37	52
Case Western Reserve U.	53	53	26	53
Catholic U. of America	36	36	31	39
U. of Chicago	69	67	44	69
U. of Cincinnati	52	54	53	53
City U. of New York				
Graduate School	48	46	43	44
Clark U.	35	33	38	37
Clarkson C. of Tech.	44	46	46	47
Clemson U.	39	39	56	43
U. of Colorado	58	57	58	58
Colorado St. U.	56	55	80	60
Columbia U.	70	70	60	67
U. of Connecticut	46	47	48	42
Cornell U.	68	67	53	70
U. of Delaware	49	52	50	49
U. of Denver	38	37	53	40
Drexel U.	39	40	51	43
Duke U.	54	55	58	50
Emory U.	47	49	70	47
U. of Florida	57	57	56	55
Florida St. U.	57	57	51	58
Georgetown U.	44	47	49	41
Georgia Inst. of Tech.	55	55	56	55
U. of Georgia	55	54	47	55
Harvard U.	74	71	40	71
U. of Hawaii	47	48	52	46
U. of Houston	51	52	63	51
Howard U.	43	42	62	41
U. of Idaho	41	39	49	43
U. of Illinois				
Chicago Circle	47	48	52	49
Urbana	69	69	49	71
Illinois Inst. of Tech.	43	42	28	47
Indiana U.	62	60	61	64
Inst. of Paper Chemistry	36	41	38	34
U. of Iowa	49	51	41	49
Iowa St. U.	60	63	47	61
Johns Hopkins U.	56	56	35	55
U. of Kansas				
Chemistry	50	53	40	47
Pharmaceutical chemistry	44	50	n.a.	33
Kansas St. U.	49	49	61	50
Kent St. U.	43	45	41	40
U. of Kentucky	43	43	51	45
Louisiana St. U.	53	52	46	51
U. of Louisville	38	37	44	37
Loyola U. of Chicago	38	39	41	41
U. of Maryland	54	54	51	53
U. of Massachusetts	51	55	50	50
Massachusetts Inst. of Tech.	73	71	54	71
U. of Miami (Fla.)	37	35	45	39
U. of Michigan	58	58	40	63
Michigan St. U.	60	59	45	62
U. of Minnesota	61	59	68	61
U. of Missouri				
Columbia	42	40	45	45
Kansas City	40	40	49	40
Rolla	39	39	47	42
Montana St. U.	39	38	56	38
U. of Nebraska at Lincoln	53	54	71	53
U. of New Hampshire	42	42	41	41
U. of New Mexico	42	45	52	40
U. of New Orleans	46	45	41	48
New York U.	48	48	36	48
U. of North Carolina	62	63	69	60
North Carolina St. U.	45	48	58	45
U. of North Dakota	39	34	41	39
North Dakota St. U.	37	36	43	37
North Texas St. U.	40	36	46	39
Northeastern U.	41	43	52	43
Northern Illinois U.	38	38	45	40
Northwestern U.	65	64	45	67
U. of Notre Dame	51	50	44	55
Ohio U.	40	39	35	41
Ohio St. U.	63	62	52	66
U. of Oklahoma	47	48	55	44
Oklahoma St. U.	44	45	57	44
U. of Oregon	58	57	58	53
Oregon St. U.	52	54	52	51
U. of Pennsylvania	59	59	55	59
Pennsylvania St. U.	60	60	54	64
U. of Pittsburgh	57	57	41	58
Poly. Inst. of New York	44	46	35	40
Princeton U.	64	64	39	67
Purdue U.	64	62	56	69
Rensselaer Poly. Inst.	50	53	52	45
U. of Rhode Island	41	42	47	38
Rice U.	58	59	52	57
U. of Rochester	59	60	68	56
Rutgers U.				
New Brunswick	52	53	50	51
Newark	41	42	43	42
U. of South Carolina	52	54	73	49
U. of South Florida	37	35	45	41
U. of Southern California	59	56	73	58
Southern Illinois U., Carbondale	41	40	33	44
U. of Southern Mississippi	32	30	47	35
Stanford U.	[illegible]	68	35	69
State U. of New York				
Binghamton	44	45	47	47
Buffalo	55	55	50	56
Stony Brook	56	54	49	57
C. of Environmental Science & Forestry	44	42	30	38
Syracuse U.	48	49	46	50
Temple U.	41	40	47	41
U. of Tennessee	47	49	52	41
Texas A&M U.	61	58	67	61
Texas Tech U.	46	45	59	49
U. of Texas	63	61	64	61
Tulane U.	40	40	35	46
Utah St. U.	40	41	52	37
U. of Utah	62	59	73	63
Vanderbilt U.	50	50	49	48
U. of Vermont	46	46	51	45
U. of Virginia	52	53	67	51
Virginia Poly. Inst & St. U.	48	51	57	48
U. of Washington	59	57	49	58
Washington St. U.	50	54	57	46
Washington U. (Mo.)	52	52	52	48
Wayne St. U.	54	54	45	56
Western Michigan U.	34	31	38	39
U. of Wisconsin				
Madison	69	67	49	70
Milwaukee *	43	45	61	44
U. of Wyoming	38	35	42	43
Yale U.	64	64	52	64

Note: Ratings are standardized on a scale where 50 represents the average score for all rated departments.
(a) Rating of scholarly quality of faculty members in the program.
(b) Rating of the effectiveness of the program in education of research scholars or scientists.
(c) Rating of improvement in program quality in the last five years.
(d) Rating of the evaluators' familiarity with the work of program faculty.
* Program was initiated after 1970.
n.a. Not available.

Computer Sciences

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
U. of Arizona	48	48	57	54
Brown U. *	54	53	63	57
California Inst. of Tech. *	50	50	40	50
U. of California				
Berkeley	70	69	57	68
Irvine	49	47	42	50
Los Angeles	63	62	57	60
San Diego	51	45	49	49
Santa Barbara	46	43	50	48
Carnegie-Mellon U.	73	71	50	72
Case Western Reserve U.	37	36	24	40
Columbia U. *	50	45	67	49
U. of Connecticut	41	41	54	43
Cornell U.	68	68	49	67
Duke U. *	49	50	56	46
Georgia Inst. of Tech.	52	51	75	50
U. of Illinois	63	63	46	62
Indiana U. *	48	46	66	49
U. of Iowa	41	43	44	41
Iowa St. U.	42	45	51	40
U. of Kansas *	44	43	38	47
Kansas St. U. *	33	33	41	34
U. of Maryland	56	58	54	61
Massachusetts Inst. of Tech.	74	73	50	72
U. of Massachusetts *	53	52	55	53
Michigan St. U.	39	39	42	36
U. of Minnesota	52	52	52	49
U. of Missouri, Rolla *	37	37	50	37
New York U.	53	53	45	51
U. of North Carolina	52	54	49	53
Northwestern U.	48	50	50	45
Ohio St. U.	49	51	49	51
U. of Oklahoma	32	48	n.a.	33
U. of Pennsylvania	52	54	49	53
Pennsylvania St. U.	46	46	24	51
U. of Pittsburgh *	44	45	41	46
Poly. Inst. of New York	37	38	35	36
Princeton U.	55	57	35	57
Rice U.	49	51	50	43
U. of Rochester *	52	54	70	55
Rutgers U. *	49	47	60	47
State U. of New York				
Buffalo	48	49	43	51
Stony Brook *	52	56	52	52
U. of Southern California	57	56	57	60
Southern Methodist U.	41	40	37	41
Stanford U.	75	74	48	74
Stevens Inst. of Tech.	36	38	45	34
Syracuse U.	49	48	50	44
U. of Texas	57	60	55	60
Texas A&M U.	35	36	44	37
U. of Utah *	53	57	45	54
Vanderbilt U.	43	42	64	44
U. of Virginia	42	44	55	40
U. of Washington	59	59	69	59
Washington St. U.	40	40	52	38
Washington U. (Mo.)	39	41	45	39
U. of Wisconsin	57	58	56	57
Yale U.	60	61	49	61

Geosciences

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
U. of Alaska	45	41	58	35
U. of Arizona *	59	60	74	60
Arizona St. U. *	52	53	66	55
Boston U.	30	29	39	38
Brown U.	59	59	59	65
U. of California				
Berkeley				
Geology	64	61	36	65
Geophysics	57	57	40	49
Davis	50	52	53	53
Los Angeles	69	65	59	69
Riverside	38	41	35	47
Santa Barbara	59	60	67	63
Santa Cruz	52	53	54	54
California Inst. of Tech.	74	73	54	73
Case Western Reserve U.	41	41	20	46
U. of Chicago	66	61	54	63
U. of Cincinnati	48	48	56	51
U. of Colorado	52	55	54	54
Columbia U.	67	65	44	68
Cornell U.	63	62	70	66
U. of Delaware	37	39	51	39
Florida St. U.	41	42	45	44
George Washington U.	33	34	40	33
Harvard U.	65	64	42	68
U. of Hawaii	50	47	56	51
U. of Houston *	42	36	55	41
U. of Idaho	34	[illegible]	48	35
U. of Illinois	53	54	42	54
Indiana U.	53	57	56	51
U. of Iowa	44	46	51	41
Iowa St. U.	41	37	52	38
Johns Hopkins U.	56	59	43	53
U. of Kansas	49	50	44	49
U. of Kentucky	40	33	55	41
Lehigh U.	40	38	41	44
Louisiana St. U.	44	48	54	44
Massachusetts Inst. of Tech.	72	72	61	70
U. of Massachusetts	51	52	58	53
U. of Miami	52	52	53	48
U. of Michigan *	57	59	51	59
Michigan St. U.	44	45	45	46
U. of Minnesota	54	55	48	56
U. of Missouri				
Columbia	41	41	39	40
Rolla				
Geological engineering	30	26	n.a.	31
Geology/geophysics	36	35	41	36
U. of Montana	41	45	51	42
U. of New Mexico	47	48	56	48
New Mexico Inst. of Mining & Tech.	44	47	56	43
U. of North Carolina	50	53	58	51
U. of North Dakota	31	27	41	35
Northwestern U.	58	57	36	58
Ohio St. U.				
Geodetic science	53	49	n.a.	32
Geology & mineralogy	50	51	50	49
U. of Oklahoma	46	43	37	47
U. of Oregon	50	53	47	53
Oregon St. U.	45	47	51	52
Pennsylvania St. U.				
Geochemistry & mineralogy	62	60	51	54
Geology	54	55	42	49
Geophysics	51	50	52	41
U. of Pittsburgh	42	42	44	40
Princeton U.				
Geological & geophysical sciences	63	62	48	69
Geophysical fluid dynamics	65	61	51	43
Purdue U.	49	49	64	47
Rensselaer Poly. Inst.	44	43	45	46
Rice U.	47	47	27	54
Saint Louis U.	39	45	43	38
U. of South Carolina	50	50	70	51
U. of Southern California	52	54	56	55
Southern Methodist U.	45	46	51	49
Stanford U.				
Applied earth sciences *	56	57	38	51
Geology	60	62	29	63
Geophysics	66	66	59	57
State U. of New York				
Albany *	57	52	50	60
Binghamton	46	46	40	49
Stony Brook	59	58	52	58
Syracuse U.	42	44	42	43
U. of Tennessee	39	40	48	44
U. of Texas				
Austin	60	60	60	64
Dallas	46	49	52	49
Texas A&M U.				
Geology	50	50	56	50
Geophysics	53	50	61	48
U. of Tulsa	26	25	33	34
U. of Utah	51	53	60	49

Continued on Following Page

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FACT-FILE – Continued

Geosciences

Continued

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
U. of Virginia	43	42	59	36
Virginia Poly. Inst. & St. U.	59	58	66	61
U. of Washington	55	56	50	58
Washington St. U.	40	40	46	39
Washington U. (Mo.)	47	50	70	43
West Virginia U.	40	40	49	36
U. of Wisconsin	60	62	48	60
U. of Wyoming	48	50	55	48
Yale U.	64	62	37	68

Mathematics

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
Adelphi U.	33	35	n.a.	35
U. of Alabama	34	30	45	36
U. of Arizona	50	50	58	49
Auburn U.	42	42	47	41
Boston U.	40	36	52	38
Bowling Green St. U. *	37	34	n.a.	39
Brandeis U.	61	59	31	59
Brown U.	64	64	57	66
U. of California				
Berkeley	72	71	50	71
Davis	46	48	45	41
Los Angeles	63	64	59	64
Riverside	47	50	44	44
San Diego	57	58	66	60
Santa Barbara	50	52	44	49
California Inst. of Tech.	62	62	46	63
Carnegie-Mellon U.	53	57	44	45
Case Western Reserve U.	50	50	49	51
U. of Chicago	71	70	42	68
U. of Cincinnati	42	44	56	43
City U. of New York				
Graduate School	59	56	38	56
Claremont Graduate School	47	47	40	47
Clarkson C. of Tech.	39	38	47	40
Clemson U.	40	43	57	41
U. of Colorado	52	54	55	49
Colorado St. U.	42	40	55	40
Columbia U.	67	63	45	64
U. of Connecticut	43	41	52	43
Cornell U.	64	64	47	67
Dartmouth C.	50	50	39	49
U. of Delaware	45	46	71	48
U. of Denver	37	35	35	40
Duke U.	52	49	53	51
Emory U.	38	39	19	38
U. of Florida	46	47	51	44
Florida St. U.	47	49	32	44
Georgia Inst. of Tech.	45	46	58	43
U. of Georgia	46	46	59	47
Harvard U.	71	71	42	71
U. of Houston	42	44	54	40
U. of Illinois				
Chicago Circle	54	52	71	56
Urbana	63	63	47	65
Illinois Inst. of Tech.	34	32	n.a.	38
Indiana U.	58	58	51	62
U. of Iowa	46	49	50	43
Iowa St. U.	45	44	39	43
Johns Hopkins U.	57	53	29	51
U. of Kansas	46	46	39	44
Kent St. U. *	41	42	52	42
U. of Kentucky	52	55	72	52
Louisiana St. U.	50	51	45	48
U. of Maryland				
Applied mathematics *	58	56	52	47
Mathematics	58	58	60	61
Massachusetts Inst. of Tech.	72	70	50	71
U. of Massachusetts	50	52	58	51
U. of Michigan	64	65	50	70
Michigan St. U.	50	52	51	54
U. of Minnesota	62	62	54	62
U. of Missouri				
Columbia	41	39	40	43
Rolla	35	38	36	39
U. of Montana	35	34	48	38
U. of Nebraska	42	41	48	40
U. of New Mexico	45	45	40	47
New York U.	69	68	34	66
U. of North Carolina	53	53	56	56
North Carolina St. U.	44	44	58	41
Northeastern U.	48	48	64	45
Northwestern U.	58	57	51	61
U. of Notre Dame	51	53	42	49
Ohio St. U.	53	55	53	56
Ohio U. *	37	33	45	39
U. of Oklahoma	44	44	52	42
Oklahoma St. U.	40	41	50	43
U. of Oregon	53	54	48	50
Oregon St. U.	47	48	54	46
U. of Pennsylvania *	60	59	39	59
Pennsylvania St. U.	53	55	64	56
U. of Pittsburgh	48	52	52	45
Poly. Inst. of New York	44	44	n.a.	40
Princeton U.	73	73	45	73
Purdue U.	58	59	49	61
Rensselaer Poly. Inst.	51	52	48	45
Rice U.	57	59	48	56
U. of Rochester	51	53	45	51
Rutgers U.	59	59	64	63
Saint Louis U.	31	31	n.a.	36
U. of South Carolina	41	39	61	41
U. of South Florida *	38	39	57	43
U. of Southern California	52	51	46	54
Southern Illinois U.	39	36	50	42
Stanford U.	69	69	44	68
State U. of New York				
Albany	48	50	51	47
Binghamton	41	41	47	44
Buffalo	51	52	46	53
Stony Brook	61	59	59	60
Stevens Inst. of Tech.	35	38	n.a.	36
Syracuse U.	47	47	34	46
Temple U.	47	45	53	45
U. of Tennessee	44	47	60	42
Texas Tech U.	40	40	64	42
U. of Texas				
Arlington *	40	39	65	43
Austin	56	55	74	58
Tulane U.	50	53	45	52
U. of Utah	55	53	80	60
Vanderbilt U.	44	44	50	43
U. of Virginia	53	55	30	52
Virginia Poly. Inst. & St. U.	47	47	64	45
U. of Washington	59	59	59	61
Washington U. (Mo.)	55	55	45	52
Wayne St. U.	45	44	55	46
Wesleyan U.	42	43	50	42
Western Michigan U.	35	33	47	38
U. of Wisconsin				
Madison	65	66	45	72
Milwaukee	40	41	42	40
Yale U.	69	67	49	68

Physics

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
American U.	37	36	42	41
U. of Arizona	54	53	61	55
Arizona St. U.	40	41	54	42
Auburn U.	35	34	n.a.	37
Boston C.	35	29	n.a.	36
Boston U.	47	46	55	45
Brandeis U.	55	55	38	54
Brown U.	58	56	52	55
U. of California				
Berkeley	72	70	37	72
Davis	48	49	51	49
Irvine	54	54	51	58
Los Angeles	62	60	52	64
Riverside	47	48	48	47
San Diego	65	61	46	65
Santa Barbara	61	58	76	60
Santa Cruz *	47	48	54	49
California Inst. of Tech.	73	71	43	7[illegible]
Carnegie-Mellon U.	59	57	42	5[illegible]
Case Western Reserve U.	53	53	38	55
Catholic U. of America	43	46	39	44
U. of Chicago	70	69	41	67
U. of Cincinnati	43	46	46	45
City U. of New York				
Graduate School	55	53	53	53
Clarkson C. of Tech.	34	32	39	39
Clemson U.	41	40	n.a.	38
U. of Colorado	54	55	44	57
Colorado St. U.	40	46	53	39
Columbia U.	69	63	29	67
U. of Connecticut	47	48	50	50
Cornell U.	70	74	58	69
Dartmouth C.	46	55	50	41
U. of Delaware	44	43	60	43
U. of Denver	40	32	n.a.	36
Drexel U.	41	42	49	45
Duke U.	53	54	45	53
U. of Florida	49	51	69	50
Florida St. U.	53	52	59	53
Georgetown U.	34	n.a.	n.a.	36
Georgia Inst. of Tech.	47	47	45	45
Harvard U.	73	73	46	72
U. of Houston	45	42	72	39
Howard U.	34	36	n.a.	37
U. of Illinois				
Chicago Circle	44	45	52	47
Urbana	67	66	50	70
Illinois Inst. of Tech.	40	39	45	43
Indiana U.	55	54	55	56
U. of Iowa	49	52	43	45
Iowa St. U.	53	52	46	50
Johns Hopkins U.	55	56	36	51
U. of Kansas	45	46	45	47
Kansas St. U.	43	41	42	41
Kent St. U.	41	41	53	42
U. of Kentucky	41	40	62	47
Louisiana St. U.	49	44	59	50
U. of Maryland	61	59	38	67
U. of Massachusetts	50	51	61	53
Massachusetts Inst. of Tech.	72	71	45	73
U. of Michigan	60	60	43	60
Michigan St. U.	56	55	59	60
U. of Minnesota	59	57	44	56
U. of Missouri				
Columbia	43	43	66	41
Rolla	43	49	60	43
Montana St. U.	41	42	62	42
U. of Nebraska	48	48	45	46
U. of Nevada	32	n.a.	n.a.	35
U. of New Hampshire	40	n.a.	56	38
U. of New Mexico	44	43	75	41
New York U.	55	55	41	55
U. of North Carolina	53	55	50	53
North Carolina St. U.	45	45	72	44
North Texas St. U.	36	30	52	41
Northeastern U.	50	50	47	51
Northwestern U.	54	55	44	54
U. of Notre Dame	47	48	45	50
Ohio State U.	53	53	52	55
Ohio U.	44	48	48	45
U. of Oklahoma	44	44	68	40
Oklahoma St. U.	41	40	n.a.	37
U. of Oregon	51	50	47	52
Oregon St. U.	41	40	45	40
U. of Pennsylvania	64	62	37	66
Pennsylvania St. U.	48	52	47	52
U. of Pittsburgh	55	55	49	58
Poly. Inst. of New York	42	40	43	40
Princeton U.	72	72	42	70
Rensselaer Poly. Inst.	48	55	45	47
Rice U.	52	55	43	51
U. of Rochester	58	57	37	62
Rockefeller U.	63	55	35	57
Rutgers U.	55	55	50	60
U. of South Carolina	40	38	56	41
U. of Southern California	50	51	49	48
Southern Illinois U.	38	31	n.a.	36
Stanford U.				
Applied physics	65	69	52	53
Physics	70	71	43	70
State U. of New York				
Albany	41	41	48	47
Buffalo	40	37	35	43
Stony Brook	65	62	58	66
Stevens Inst. of Tech.	47	46	36	46
Syracuse U.	52	55	47	49
Temple U.	46	46	42	46
U. of Tennessee	49	48	56	44
U. of Texas				
Austin	62	55	83	60
Dallas *	43	39	n.a.	39
Health Science Center at Houston	n.a.	n.a.	n.a.	34
Texas A&M U.	50	48	63	50
Tufts U.	45	48	43	42
Tulane U.	35	30	51	40
U. of Utah	47	48	60	48
Utah St. U.	37	37	n.a.	36
Vanderbilt U.	46	49	49	44
Virginia Poly. Inst. & St. U.	52	48	73	53
U. of Virginia	53	54	59	57
U. of Washington	62	60	65	64
Washington St. U.	36	38	n.a.	37
Washington U. (Mo.)	51	53	44	51
Wayne St. U.	42	39	31	43
C. of William & Mary	47	48	53	46
U. of Wisconsin				
Madison	61	60	42	65
Milwaukee	42	42	45	42
U. of Wyoming	40	40	51	40
Yale U.	65	65	42	66

Statistics

	Faculty quality (a)	Effectiveness (b)	Improvement (c)	Familiarity (d)
American U.	30	28	45	31
Boston U.	35	37	48	38
U. of California				
Berkeley	72	70	59	70
Los Angeles	59	58	52	58
Riverside *	46	46	69	47
Carnegie-Mellon U.	57	58	71	58
Case Western Reserve U. *	37	37	34	36
U. of Chicago	70	65	56	65
Colorado St. U.	54	56	52	55
Columbia U.	61	58	48	59
U. of Connecticut	43	42	49	49
Cornell U.	62	62	48	63
U. of Delaware *	39	34	57	41
U. of Florida	45	47	53	49
Florida St. U.	51	62	48	61
George Washington U.	48	43	26	51
U. of Georgia	39	39	52	44
Harvard U.	62	56	49	62
U. of Illinois	57	50	53	51
Indiana U.	39	36	34	49
U. of Iowa	52	55	51	57
Iowa St. U.	62	64	53	64
Johns Hopkins U.	50	53	44	44
Kansas St. U.	40	43	49	37
U. of Kentucky	48	47	49	53
U. of Maryland *	37	34	52	38
U. of Michigan	53	55	46	48
Michigan St. U.	53	54	44	51
U. of Minnesota				
Biometry	43	44	46	36
Statistics	60	60	51	60
U. of Missouri				
Columbia	44	46	44	45
Rolla	36	34	46	39
U. of New Mexico	43	45	45	42
U. of North Carolina				
Biostatistics	60	62	52	59
Statistics	63	62	43	62
North Carolina St. U.				
Biomathematics	45	47	35	34
Statistics	53	57	45	52
Ohio St. U. *	47	50	51	51
Oklahoma St. U.	39	46	45	40
Oregon St. U.	50	53	49	48
U. of Pennsylvania	47	48	54	46
Pennsylvania St. U.	49	52	52	52
U. of Pittsburgh				
Biostatistics	40	39	46	34
Mathematics & statistics *	53	45	78	53
Princeton U.	62	56	43	65
Purdue U.	61	60	56	61
U. of Rochester	52	53	50	52
Rutgers U.	54	54	44	52
State U. of New York				
Buffalo	40	42	15	44
Stony Brook	44	42	66	46
U. of South Florida *	41	32	59	44
Southern Methodist U.	48	51	48	50
Stanford U.	72	73	55	69
Temple U. *	39	41	48	39
Texas A&M U.	53	55	63	59
U. of Texas Health Science Center Houston	46	45	57	37
Virginia Commonwealth U.	33	36	41	34
Virginia Poly. Inst. & St. U.	51	54	56	55
U. of Washington	61	62	77	55
U. of Wisconsin	66	67	54	67
U. of Wyoming *	40	41	48	40
Yale U.				
Epidemiology & public health	42	47	51	37
Statistics	60	57	46	60

Note: Ratings are standardized on a scale where 50 represents the average score for all rated departments.
(a) Rating of scholarly quality of faculty members in the program.
(b) Rating of the effectiveness of the program in education of research scholars or scientists.
(c) Rating of improvement in program quality in the last five years.
(d) Rating of the evaluators' familiarity with the work of program faculty.
* Program was initiated after 1970.
n.a. Not available.

SOURCE: CONFERENCE BOARD OF ASSOCIATED RESEARCH COUNCILS

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CONGRESSIONAL INFORMATION
7101 WISCONSIN AV/NW
WASHINGTON DC 20014

THE CHRONICLE
of Higher Education

ISSN 0009-5982

October 6, 1982 • $1.25
Volume XXV, Number 6

News Summary

Articles on inside pages

Anthony F. Aveni, named 1982 "Professor of the Year" by the Council for Advancement and Support of Education, is a pioneer of archaeo-astronomy. Story on Page 6.

Twenty years later, the enrollment of a black student, James H. Meredith, in the then all-white University of Mississippi is still referred to as "The Crisis." Story on Page 9.

The Central Intelligence Agency may keep its contacts with American colleges secret, a federal appeals court has ruled. Story on Page 13.

National security is best served by allowing the open exchange of scientific information, says a National Academy of Sciences panel. Story on Page 13.

Tougher academic standards for college athletes have been proposed by a committee of college presidents. Story on Page 19.

The major associations governing college sports are attracting many women's athletic teams to their programs because of the demise of the Association for Intercollegiate Athletics for Women. Story on Page 19.

Israeli students and academics were among those calling for an investigation of the massacre of Palestinian refugees in Beirut. Story on Page 23.

Electronic journals that make scientific information available by computer are either "garbage heaps" or advances in scholarly publishing—depending on your point of view. Story on Page 25.

New assistant professors of business, computer science, and engineering are better paid than faculty members of that rank in other fields, according to a survey of faculty salaries at state universities. Story on Page 29.

ALSO IN THIS ISSUE

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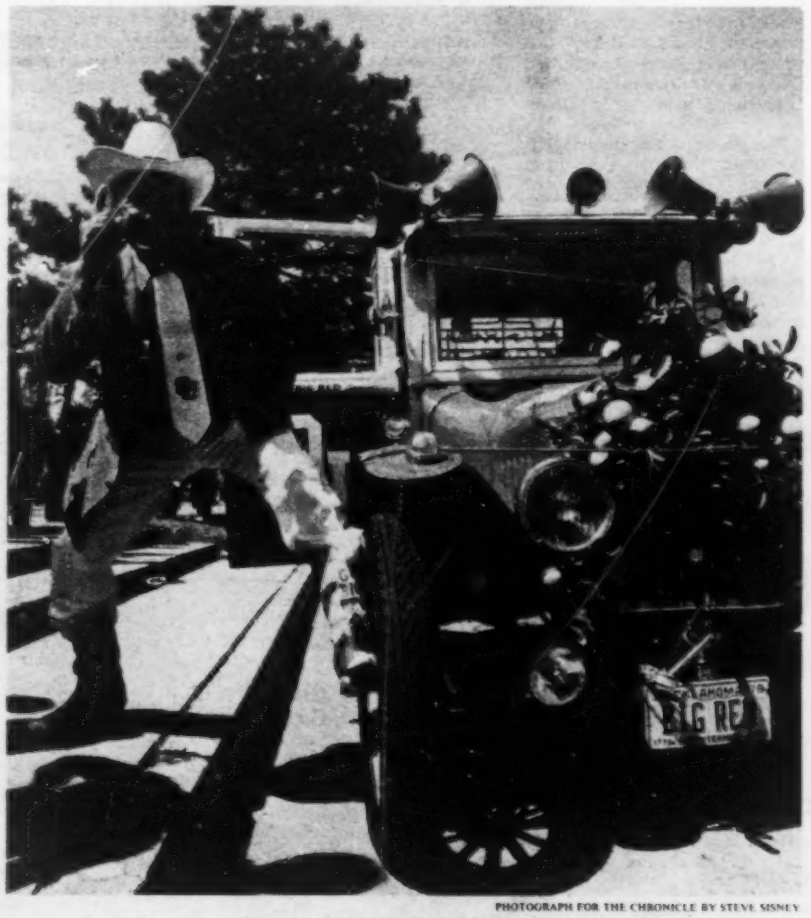
EVEN HIS CAR IS RED AND WHITE



PHOTOGRAPH FOR THE CHRONICLE BY STEVE SISNEY

Cecil Samara, who says he's the U. of Oklahoma's No. 1 fan, gets ready for a football game with the U. of Southern California. Story on Page 21.

Court to TIAA: Pay Men, Women Equal Pensions

Supreme Court appeal appears certain

By CHERYL M. FIELDS

A federal appeals court has ruled that the Teachers Insurance and Annuity Association–College Retirement Equities Fund must begin paying men and women equal retirement benefits.

A three-judge panel of the U. S. Court of Appeals for the Second Circuit last week not only unanimously upheld a district court's ruling that C.R.E.F. must use sex-neutral mortality tables in calculating all pension benefits paid to people retiring after May 10, 1980, but it also extended the ruling to cover T.I.A.A.

The appeals court also upheld the lower court's ruling that ordered Long Island University, where the case arose, not to contribute to any plan that "continues to use sex-based mortality tables to calculate retirement benefits for employees retiring after June 1, 1980."

Enforcement of the district court's order had been stayed pending the appeals court's decision. A spokesman for T.I.A.A.-C.R.E.F said last week that the company also would seek a stay of the circuit court's ruling and would appeal the case to the Supreme Court.

The Court already has been asked to review two other cases raising similar issues.

AAUP 'Very Pleased'

Said a spokesman for the American Association of University Professors, which opposed the pension company in the case: "We are very pleased with the decision. It vindicates the position we have been taking for years."

About 85 per cent of private four-year colleges and universities and 40 per cent of public institutions have T.I.A.A.-C.R.E.F. plans.

In its ruling, the Second Circuit rejected several arguments that T.I.A.A.-C.R.E.F. had used to defend its current plans, under which women and men make identical contributions to their pension plans, but women receive lower monthly retirement benefits—based on the fact that the average

Continued on Page 30, Column 1

Possible Faculty Shortage in 1990's Worries Today's Academic Leaders

By MALCOLM G. SCULLY

Worried that colleges and universities will face a shortage of well-qualified faculty members in the mid-1990's, some foundation and university officials are hoping to persuade bright students in the humanities to pursue academic careers despite the current dismal job market.

The most ambitious effort to address the problem is a new program of graduate fellowships in the humanities, financed by the Andrew W. Mellon Foundation and administered by the Woodrow Wilson National Fellowship Foundation in Princeton, N.J.

Starting in the 1983-84 academic year, 100 to 125 Mellon Fellowships will be awarded annually to outstanding students who are beginning graduate school. The first fellows will be named next March.

The foundation estimates it will spend $24-million on the program over 10 years.

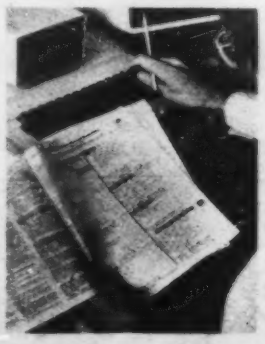
In announcing the fellowships, Robert F. Goheen, director of the program, said it had two purposes:

▶ "To help assure that the next generation of teachers and scholars will include men and women of the highest ability."

▶ "To help sustain the nation's leading graduate schools and the continuity of teaching and scholarship in fundamental fields of learning."

Mr. Goheen, a former president of Princeton University and a former U.S. Ambassador to India, said in an interview that, because of the dismal job prospects facing young scholars in the humanities over the next several years, many faculty members had been discouraging some of their best students from going to graduate school. "A lot of the students don't need

Continued on Page 10, Column 1



Does a Personal Computer Rate a Tax Deduction?

Academics who purchase personal computers to use in their work may be able to deduct up to the full purchase price of the machines and related equipment on their federal income-tax returns, say tax lawyers and other specialists, including a spokesman for the Internal Revenue Service.

For details, see the "Personal & Professional" section, which begins on Page 29

FACT–FILE

A Profile of 1980-81 Recipients of Doctorates

	Arts and humanities	Computer sciences	Education	Engineering	Life sciences	Mathematics	Physical sciences	Social sciences	All fields†
Doctoral degrees conferred	3,745	232	7,489	2,528	5,461	728	3,208	6,505	31,319
Sex									
Male	58.7%	88.8%	52.8%	96.1%	73.6%	84.6%	88.7%	64.4%	68.5%
Female	41.3%	11.2%	47.2%	3.9%	26.4%	15.4%	11.3%	35.6%	31.5%
Racial or ethnic group‡									
American Indian	12	—	42	4	11	1	1	14	89
Asian	56	18	119	282	212	40	158	135	1,062
Black	93	2	589	19	80	9	28	223	1,104
Puerto Rican	23	—	38	5	10	2	12	16	115
Mexican-American	17	—	78	2	15	—	3	45	161
Other Hispanic	64	—	46	9	36	3	27	61	249
White	2,964	182	5,561	1,092	4,021	446	2,196	4,980	22,480
Other or unknown	139	8	224	54	206	22	158	268	1,082
Citizenship									
United States	85.7%	72.4%	97.7%	46.2%	80.3%	65.9%	75.4%	84.0%	79.8%
Foreign	10.2%	25.9%	0.8%	49.1%	17.1%	31.5%	21.3%	11.9%	16.6%
Unknown	4.1%	1.7%	3.6%	4.7%	2.6%	2.6%	3.3%	4.2%	3.6%
Marital status									
Married	57.0%	54.3%	67.9%	61.6%	59.3%	49.7%	53.1%	56.6%	60.1%
Not married	36.5%	41.4%	27.3%	32.7%	36.6%	46.0%	42.1%	37.5%	34.7%
Unknown	6.4%	4.3%	4.8%	5.6%	4.1%	4.3%	4.8%	5.9%	5.2%
Median age at doctorate	33.5	30.1	37.3	30.5	30.1	29.2	29.0	32.0	32.4
Median number of years from bachelor's degree to doctorate	10.8	7.7	13.5	7.9	7.3	6.9	6.7	9.0	9.4
Per cent with bachelor's degrees in same field as doctorate	61.0%	13.8%	38.9%	74.1%	40.7%	80.2%	76.6%	59.1%	53.3%
Planned postdoctoral study									
Fellowship	2.6%	2.2%	1.0%	3.7%	27.9%	6.7%	14.9%	6.7%	8.9%
Research associateship	0.9%	3.0%	0.9%	7.6%	15.6%	5.8%	22.7%	2.8%	6.7%
Traineeship	0.2%	0.9%	0.6%	1.5%	1.6%	1.4%	0.5%	1.7%	1.0%
Other	1.9%	0.4%	0.7%	0.4%	4.9%	1.4%	0.8%	1.4%	1.7%
Planned postdoctoral employment									
Educational institution	67.5%	46.6%	86.3%	24.7%	24.2%	53.7%	10.8%	41.2%	44.3%
Industry or business	6.9%	35.3%	5.8%	42.6%	9.2%	18.0%	34.7%	11.1%	14.2%
Government	3.3%	4.7%	10.2%	9.6%	7.3%	5.1%	7.0%	13.7%	8.8%
Nonprofit organization	4.2%	0.4%	5.0%	1.6%	1.7%	0.8%	0.8%	9.5%	4.7%
Other or unknown	4.7%	3.0%	3.9%	1.7%	2.3%	1.2%	1.6%	5.2%	3.4%
Postdoctoral status unknown	7.9%	3.4%	5.7%	6.7%	5.5%	5.9%	6.3%	6.7%	6.3%
Primary postdoctoral work									
Research and development	5.0%	60.5%	5.9%	62.6%	50.2%	42.6%	75.2%	21.9%	26.2%
Teaching	74.2%	29.3%	39.1%	22.1%	29.1%	49.4%	14.2%	36.6%	39.7%
Administration	6.4%	3.0%	36.2%	2.4%	5.1%	1.1%	2.0%	7.8%	14.2%
Professional services	5.1%	2.4%	11.5%	5.4%	7.0%	3.1%	3.2%	26.6%	12.1%
Other	5.1%	1.8%	1.8%	2.6%	3.5%	1.6%	2.6%	3.0%	2.9%
Unknown	4.2%	3.0%	6.4%	4.9%	5.0%	2.2%	2.8%	4.1%	4.8%

Note: Figures do not include first professional degrees, such as M.D. or D.D.S.
† Includes degree categories not listed separately.
‡ Includes only U.S. citizens and foreign persons with permanent visas.

SOURCE: SURVEY OF EARNED DOCTORATES, NATIONAL RESEARCH COUNCIL

General Education Found Gaining Faculty Support

WASHINGTON

General-education programs are getting increased support from faculty members, according to a survey of curriculum changes.

The survey, by the Association of American Colleges, found that over the past three years 78 per cent of administrators and 71 per cent of faculty members had developed more favorable attitudes toward general education—the courses required of all undergraduates, regardless of their major field of study.

The survey report found the increased support among faculty members more surprising than that from administrators.

"Faculty members may be returning to undergraduate instruction because of declines in graduate education and research," the report said, "or those in the liberal arts may be attempting to regain students lost in recent years to vocational fields."

The survey gathered data from 125 colleges and universities that were reviewing or revising their curricula. At about half the institutions, curriculum changes were still in the planning stages and had not been put into effect.

The survey report was written by Jerry G. Gaff, director of the A.A.C.'s Center for General Education, and Thomas D. Klein, associate professor of English at Bowling Green State University.

Departments Called Obstacles

The greatest obstacles to change in the curricula, their report said, were departmental efforts to protect their academic turf, cited by 58 per cent of the institutions, and faculty resistance, cited by 40 per cent. Lack of funds was mentioned as a barrier to change by only 13 per cent of the institutions.

The report said a majority of the institutions surveyed had increased the amount of general education required of students.

Four-year institutions in the survey required an average of 44 semester hours of general studies—representing more than a third of the total credits required for graduation. At two-year institutions, the average requirement was 31 semester hours of general education, representing 52 per cent of the total required for graduation.

In a third to a half of the institutions, required studies in the humanities, arts, natural sciences, and social sciences had been increased.

In 99 per cent of the general-education programs, development of writing skills was an explicit part of the program.

Other skills included in the general-education programs were: mathematics, reported by 82 per cent of the institutions; critical thinking, 79 per cent; problem solving, 72 per cent; research-library skills, 63 per cent; speaking, 61 per cent; foreign language, 57 per cent; computer literacy, 45 per cent; and interpersonal relations, 34 per cent.

—JACK MAGARRELL

'Professor of the Year' *Continued from Preceding Page*

binds together the building blocks we call courses in the undergraduate curriculum. Here we'd seen general education, which was at the core of this institution's curriculum, dissolve and break apart. The catalogue became a meaningless mélange of courses that didn't hang together, and yet we were calling it a core. It was out of a feeling of embarrassment over what that program had become that I wanted to have something to do with changing it."

The folk wisdom is that teaching and community service are often on the losing end in the competition with scholarship for the serious attention of a college professor, but "Tony has shown that these can be brought into happy harmony," says Mr. Rembert.

Mr. Aveni's service to his university was another factor in his being selected Professor of the Year, for which he will receive a $5,000 prize donated by the late Thomas B. McCabe, a former president of the Scott Paper Company.

An exciting aspect of the award, according to Mr. Aveni, is his lecture this Thursday at the Smithsonian.

"I'd like people to go away understanding that the present and its problems are not unique," he says, "that not only did we have a past but other people had a past, and they, too, had their problems and solutions, their loves and hates, *and* their intellectual pursuits.

"It would be easy for me to get people to say, 'Gee, weren't those Mayas amazing folks,' and now, back to your regular channel. Well, that's not enough.

"I'll spend most of my time showing how broad and how deep was that culture, and how religion was a driving force behind the great scientific achievement of the Mayas. Just to know *that* will help a person realize that there are possible scenarios for human inquiry other than our own."

Half of U.S. Ph.D's in Engineering Go to Foreigners

WASHINGTON

More foreigners than American citizens earned doctoral degrees in engineering from U.S. universities in 1981, according to the National Research Council's annual survey of new doctorates.

In a report on the survey, the council said 1981 was the first year since the studies began in 1958 in which the number of doctorates awarded to foreigners exceeded the number awarded to Americans in a broad field such as engineering.

Of the 2,528 doctoral degrees awarded in engineering in 1981, 49.1 per cent went to foreigners and 46.2 per cent to Americans, the report said. The nationality of the remaining 4.7 per cent was unknown.

The increasing proportion of foreign graduate students in engineering has provoked sharp Congressional debates over new immigration legislation that would require most foreign students to return to their home countries for at least two years after completing their studies.

Universities facing shortages of engineering faculty members and some high-technology companies seeking trained engineers have opposed the two-year rule. The Senate version of the legislation and a version now being considered in the House of Representatives both provide for waivers of the requirement in such fields as engineering.

7 Pct. Below 1973's Peak

Over all, the survey found that U.S. universities had awarded 31,319 doctorates in 1981, an increase of 303—less than 1 per cent—over 1980. The 1981 total was 7 per cent below the peak year of 1973, when 33,756 degrees were granted.

The survey also found that the proportion of doctorates going to women had increased—continuing a trend that began in 1965. That year, 11 per cent of 16,340 doctoral degrees went to women, compared with 31.5 per cent of 31,319 degrees in 1981. The number of men earning doctorates has declined each year since 1973.

The report added that for more than 60 per cent of the recipients of doctoral degrees in 1981, the primary source of financial support in graduate school had come from one of three sources: their own earnings, teaching assistantships, or research assistantships.

However, it showed that women were "far more likely to report financial support from their own earnings, spouse's earnings, and family contributions than men." Other findings:

- "From 1971 to 1981, the number of women doctorates in education more than doubled, while the corresponding number of men decreased 22 per cent. If this trend continues, education could become the first major field where the number of doctorates granted to women exceeds the number granted to men."
- "The number of women doctorates in the humanities increased for the first time since 1975," and in two fields—English literature and foreign languages—more women than men earned Ph.D.'s.

The survey of doctoral-degree recipients is conducted annually by the National Research Council for the National Science Foundation, the U.S. Office of Education, the National Institutes of Health, and the National Endowment for the Humanities.

—MALCOLM G. SCULLY

'In' Box

For colleges seeking more in-house computer programmers, there may be some hidden talent just across the quad or down the hall—in the music department. That's the tone and substance of a suggestion from a music scholar turned lawyer, Charlotte Roederer of the Buffalo firm of Moot & Sprague.

Speaking to college administrators recently on the ins and outs of computer contracts and related matters, Ms. Roederer said they might consider what some recruiters for the software industry have happily discovered about musicians: They tend to have a high degree of intuition and inventiveness—just the sort of qualities programmers need—and they've been trained in such a way that "discipline doesn't destroy their creativity."

•

The computer literacy of college students, already at such an impressive level that many academics are taking crash courses just to keep up, may be accelerated soon by federal legislation.

Apple Computer plans to donate up to 25,000 of its Apple II personal computers to elementary and secondary schools across the country if Congress enacts a special tax break that the company has been seeking.

One version of the measure, recently passed by the House, would enable Apple and other computer companies to deduct up to twice the production costs of equipment they donate to schools in 1983.

A smaller deduction would be allowed over three years under a different version of the bill that cleared the Senate Finance Committee last week.

Whatever the proposal's immediate fate, it's seen as a sign of the inevitable growth of computer education. The problem in this whole area today, says John W. McCredie, president of EDUCOM, an information-technology consortium, is that many colleges are simply "unprepared for the levels of kids that are starting to come in."

•

To some professors, the most important issue in the current debate over proposals to end mandatory retirement is how to mitigate the effects of inflation on the purchasing power of pension benefits of those already retired.

As one correspondent pointed out last week, excerpts published in *The Chronicle* of a report on retirement by the American Association of University Professors' Committee A omitted the panel's views on the benefits question.

To repair the omission: The committee said its objective of exempting faculty members from any "uncapping" of mandatory retirement should not be "purchased at a cost of the slow impoverishment of the retired faculty."

How that could be handled by legislation is technically difficult and unclear, the panel said. But it added that some attempt at an equitable solution "should be made a condition for any exemption."

Personal & Professional

Tax Savings for Personal Computers? Academics May Qualify, Experts Say

By ROBERT L. JACOBSON
WASHINGTON

College faculty members and administrators who've been wondering whether the time has finally come to buy their own personal computers may find an incentive in the federal tax laws. Depending on their personal and professional circumstances, they may be able to deduct up to the full purchase price of a computer and related equipment from their federal income taxes over several years, thus saving hundreds or even thousands of dollars.

Individual circumstances also may enable some members of academe to save even more on such purchases in the first year by claiming investment tax credits.

That is the general view of tax lawyers and other specialists, including a spokesman for the Internal Revenue Service, who were consulted by *The Chronicle*.

Specific Requirements Stressed

All of the experts stressed that tax savings are allowable only for those who satisfy specific requirements of the law. At a minimum, they agreed, the equipment in question would have to be used for work, not play. According to one lawyer, tax officials could be expected to draw a clear distinction between a simple home computer used mainly for games and a more sophisticated "business" computer or word processor.

But the experts also agreed that individual circumstances common to many professional employees in higher education would be adequate to support tax write-offs for computer purchases.

There are two main approaches to qualifying for tax deductions in such cases, the specialists indicated.

One is to claim a deduction in connection with a separate income-producing business, such as consulting, that the academic conducts in his or her home or place of work. The other is to claim a deduction for a personal expense directly related to academic work.

CHRONICLE PHOTOGRAPH BY JOHN C. PHILLIPS

Computer use in consulting work would be one justification for a tax deduction.

Definite rules and procedures apply to both approaches, and academics should realize that—as is always the case with tax returns—they may be called upon to substantiate their claims in an I.R.S. audit.

Those interested in the possibilities might begin with a review of several documents generally available without charge from I.R.S. offices.

▶ Publication 529—*Miscellaneous Deductions.*

▶ Publication 587—*Business Use of Your Home.*

▶ Form 2106—*Employee Business Expenses.*

▶ Schedule A—*Itemized Deductions.*

▶ Schedule C—*Profit or (Loss) from Business or Profession.*

New editions for the 1982 taxable year, which will take account of recent changes in the law, are expected to be available in about a month, the I.R.S. spokesman said. Meanwhile, 1981 editions are still available.

Publication 529 notes that taxpayers who itemize their deductions on Schedule A may deduct a variety of legitimate employee expenses, including those incurred for using a part of their home "regularly and exclusively in work," "research expenses of a college professor," "small tools and supplies," and "subscriptions to professional journals."

'Ordinary and Necessary'

According to the sources consulted by *The Chronicle*, the purchase of a personal computer qualifies as a deductible employee expense as long as the taxpayer can show that it is required in his employment and that his employer did not provide it or reimburse him for it.

"The law says you can deduct whatever is ordinary and necessary," the I.R.S. spokesman explained. Asked who determines whether the purchase of a personal computer is ordinary and necessary, the spokesman, who asked that his name not be published, replied, "Initially the taxpayer would."

He added that it would then be up to the Internal Revenue Service to accept or question the deduction, depending on the "facts and circumstances" of a particular taxpayer's claim.

Would an employee be well advised to

Continued on Following Page

New Assistant Professors' Pay Varies as Much as $5,800 at State Colleges

WASHINGTON

Administrators at 204 public, four-year colleges and universities have just received detailed information on how well they are paying their faculty members in 21 disciplines, rank by rank, in comparison with those at similar institutions across the country.

The data, collected in a survey by the College and University Personnel Association for the American Association of State Colleges and Universities, show that the average salaries of new assistant professors in such popular fields as business, computer sciences, and engineering at the 204 state colleges are several thousands of dollars higher this year than those of their counterparts in most other fields.

At the other end of the spectrum, the average pay of new assistant professors in foreign languages, history, and English is more than $2,000 below the average for all new faculty members in that rank.

Aggregate results from the survey, which covered full-time faculty members and is based on a 9- or 10-month academic year, are highlighted in a table and accompanying graphs on Page 31.

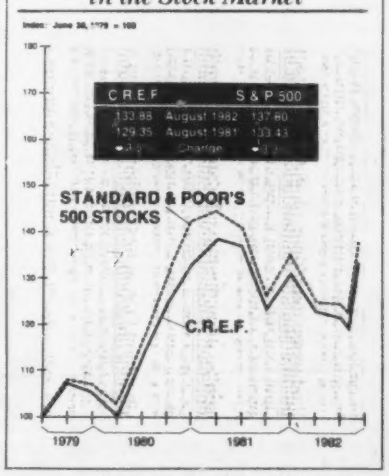
Adjustments to Market Conditions

The attention of administrators and faculty members at the survey's participating institutions is likely to be focused mainly on comparative salary data for each discipline and rank. Such breakdowns—which have not been part of the widely disseminated annual compensation reports of the American Association of University Professors—may be of value to colleges wishing to adjust their pay scales to market conditions.

College administrators "need to know what the market is," says Allan W. Ostar, president of the state-college association. "I suppose it's like pro football. The quar-

Continued on Page 31, Column 1

Faculty Pension Funds in the Stock Market



SOURCE: COLLEGE RETIREMENT EQUITIES FUND

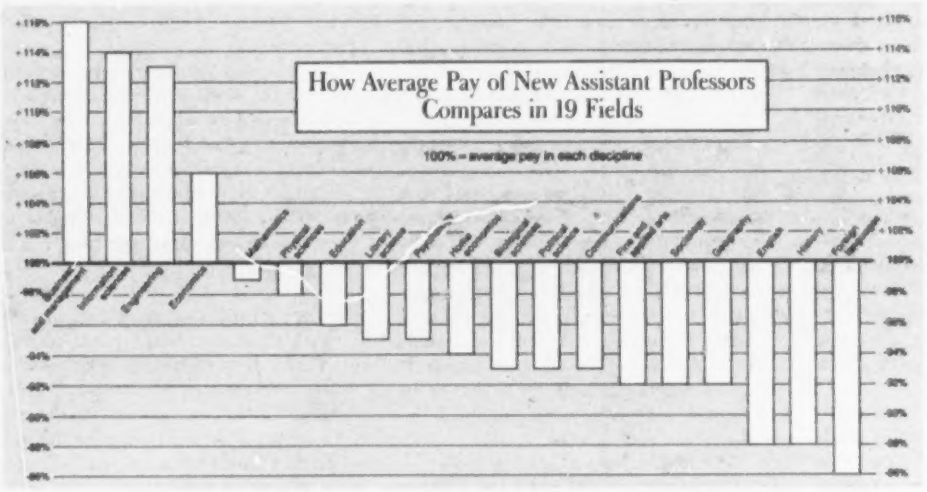
Pension funds invested in common stocks by the College Retirement Equities Fund showed a total return (changes in market value, plus dividends) of 3.5 per cent during the 12 months ending August 31. The value of one unit (share) for August was $47.05.

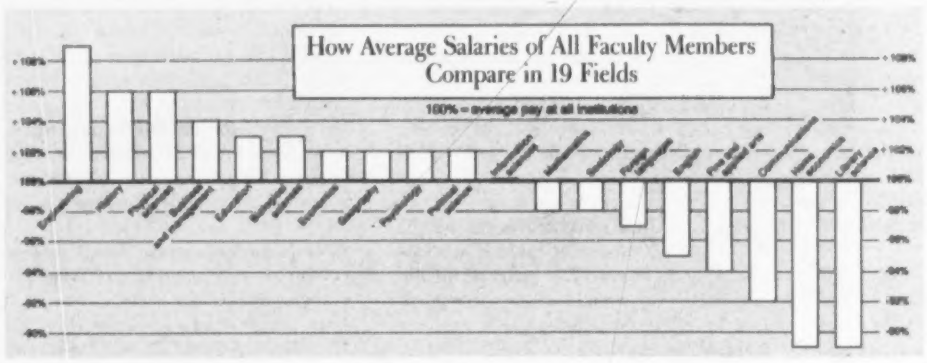
Faculty Salaries by Discipline and Rank

Average pay for more than 39,000 faculty members at 204 state colleges and universities in 1981-82

	Professor	Associate professor	Assistant professor	New assistant professor	Instructor	All ranks
Biological sciences	$30,129	$24,378	$20,219	$18,418	$16,110	$25,591
Business and management	32,841	27,313	22,755	22,972	17,621	25,792
Communications	30,296	24,477	20,031	18,346	16,226	22,934
Computer and information sciences	31,846	27,063	22,713	22,454	17,867	24,840
Economics	31,215	25,790	21,219	20,971	17,471	25,256
Education	30,157	24,992	21,033	18,898	17,442	25,571
Special education	29,863	24,488	20,764	18,888	16,629	24,186
Vocational and technical education	30,289	24,713	20,895	19,862	16,982	23,949
Engineering	32,835	26,918	22,427	22,331	17,465	27,181
English	30,239	23,958	19,868	17,360	14,838	23,541
Fine and applied arts	29,519	23,795	19,630	18,101	16,542	23,394
Foreign languages	30,146	24,402	20,098	17,083	16,326	24,118
Geography	30,651	24,800	20,519	18,092	17,445	25,481
History	30,593	24,316	20,321	17,394	16,820	26,430
Home economics	30,503	24,377	20,610	18,614	16,358	22,244
Library science	30,112	24,136	20,041	18,796	15,918	22,037
Mathematics	30,561	25,018	20,765	19,627	15,574	24,434
Physical sciences	30,822	25,106	20,398	19,282	16,046	26,457
Psychology	31,015	24,556	19,905	18,729	16,306	25,438
Political science and government	30,944	24,614	19,839	18,402	16,940	25,271
Sociology	30,958	24,612	20,116	18,212	16,374	24,319
All disciplines	**$30,739**	**$24,959**	**$20,708**	**$19,770**	**$16,500**	**$24,870**

SOURCE: AMERICAN ASSOCIATION OF STATE COLLEGES AND UNIVERSITIES AND COLLEGE AND UNIVERSITY PERSONNEL ASSOCIATION





Professors' Pay *Continued from Page 29*

terback is going to get more than the middle linebacker."

He says he expects the survey to be controversial.

Irving J. Spitzberg, Jr., general secretary of the A.A.U.P., says his organization does not object in principle to doing a survey by discipline and rank. But "technical questions" have been raised by some of his colleagues about whether such surveys can be done accurately and with enough "sophistication," he says.

A: Appalachian State University, Richard D. Howe, professor of history and higher education and director of the national pilot study, says officials have been "very surprised" to learn that their new assistant professors are earning $500 to $1,000 more than those at other institutions in most of the surveyed disciplines.

Those findings do not mean that Appalachian State will cut back on salaries, Mr. Howe says. "We'll just bask in the reflected glory of the data."

Among other national organizations of colleges and universities, the state-college project has aroused "exceptional interest" in joining a proposed expansion of the survey within the next few months, according to Stephen S. Miller, executive director of the College and University Personnel Association.

The statistical base of the pilot survey—more than 39,000 faculty members at 204 institutions—could be increased to more than 200,000 faculty members at some 1,600 institutions, public and private, he says.

The state-college study is the first of its kind by a national association of colleges, although selective surveys of salaries by discipline and rank have been conducted among state universities and land-grant colleges in recent years by researchers at Oklahoma State University.

Copies of the state-college survey's results are available from CUPA, 11 Dupont Circle, Suite 120, Washington 20036. The price is $5 for people whose colleges are members of the state-college group, and $10 for others. —ROBERT L. JACOBSON

The Foundation for Public Relations Research and Education

ANNOUNCES $2,500 GRANTS

for the development of three proposals in the area of public relations research. Candidates must have relevant experience and education to be eligible. Proposals will range from 6 to 12 pages and will be circulated to corporations for funding of $50,000 to $100,000.

Proposals, in brief, are as follows:

1) Development of a pilot public relations curriculum unit for advanced management courses in graduate schools of business, government, and the social services.

2) Development of a pilot program modeling how public relations practitioners can use modern communications technology and available opinion research to communicate better with major publics on trends and issues affecting society and American institutions.

3) Development of a model for professional development programs aimed at senior level public relations practitioners.

Interested researchers should write for application guidelines. Please specify by number which project you are interested in.

Proposal grants will be awarded by December 15. Submit grant applications by November 15 to:

Kalman B. Druck, APR, Chairman
Grants & Proposals Committee
Foundation for Public Relations
Research and Education, Inc.
415 Lexington Avenue, Suite 1305
New York, New York 10017
(212) 370-9353

THE NATIONAL STUDY ON OCCUPATIONAL LITERACY

THE O.L.E.

The Occupational Literacy Exam (O.L.E.) is a Socratic tool designed to test one's vocational health. The O.L.E. helps people determine whether or not they are adequately prepared to make important career life decisions. Advisors use the test to motivate people to spend more directed time in preparing for the 80,000 hours of their career life.

O.L.E. BEGINNINGS:

"The level of occupational literacy among people who will ultimately spend an average of 80,000 hours working—and in many cases hating their jobs—is appalling, says Watkins.

Watkins, however, discovered an answer to occupational illiteracy while looking for a way to interest students in the future without having to entrap them with disco-dancing lessons. Why not apply the Socratic method of asking questions aimed not so much at specific answers but in a more general sense at illuminating where to look further? Watkins' discovery was the root of a booklet called the Watkins Occupational Literacy Examination."

Los Angeles Times, December 6, 1979

"John Holland of Johns Hopkins University in Baltimore, an authority in the vocational testing field, says the examination is 'unique'. It is a very useful idea for stimulating a person to do more work on vocational planning, says Holland."

(AP) Syracuse, NY, Herald American, November 22, 1979

THE NATIONAL STUDY:

The O.L.E. has now been taken by over 100,000 people in the past year and a half alone. The National Study will provide us with an on going assessment of America's occupational health and will provide participating career life advisors an opportunity to test the value of their assistance by using the O.L.E. as a pre and post test measurement of growth.

Point Loma Department Chairpersons, Dr. Dwayne Little (History) and Dr. Bill Hobbs (Math), use the O.L.E. in their advising sessions and have agreed to be responsible for conducting the national research project.

_____ Please send me 100 copies of the O.L.E. and bill me $40 to cover the materials, postage and handling costs. If the O.L.E. does not meet my needs, I will return the material and pay only the postage.

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